

- Formulated a five-year telecommunications strategy for integrating voice and data systems, involving ISDN, broadband ISDN, high speed fiber networks, and wideband packet technology.
- Planned for and lead a team which deployed a \$36 million wide-area packet data communications network comprising 55,000 connections at 10 locations.

1982 to 1984

STAFF MANAGER, responsible for developing voice and data product features and functionality enhancing market share and revenues of customer premises telecommunications systems.

- Identified and developed product requirements for incoming and outgoing call management systems leading to increased annual PBX sales of \$2M; conducted market research and economic analysis; formulated product feature requirements, gross market opportunities, and projected sales and life-cycle revenues.
- Created and led a team which developed data switching feature, cost and performance requirements for a new line of small business PBX systems leading to a major impact on market share.

1977 to 1982

COMMUNICATIONS ANALYST/PLANNER, responsible for the implementation of next generation voice and data communications features, functions, and networks to meet rapidly changing customer needs.

- Initiated and led a 10-member project team planning and implementing a \$33 million CENTREX expansion and enhancement of voice and data switching facilities (1A ESS) at three major locations.
- Conceived, designed and implemented an audio/graphics teleconferencing network to improve productivity, and to lower by business traveling costs by 20% at 8 locations.
- Led a team that planned and implemented the conversion of CENTREX-based switching to Dimension@ PBX services to meet critical customers need for a 250% increase in data switching capacity over a 3-year period.

1970 to 1977

STAFF SUPERVISOR, responsible for the management of corporate graduate and undergraduate programs aimed at enhancing employee technical skills.

- Supervised a staff of 4 persons responsible for \$11 million in annual costs for tuition payments, educational materials, and administrative costs.
- Created, designed, and implemented an innovative method of direct tuition payment for 70 participating schools resulting in better service to the students and achieving a 15% reduction in annual administration expenses.

1960 to 1970

MEMBER OF TECHNICAL STAFF, responsible for the design of shock and vibration protection of telephone equipment, and for central office equipment design.

EDUCATION

1960 to 1962

NEW YORK UNIVERSITY, New York.

Master of Science in Mechanical Engineering.

1956 to 1960

UNIVERSITY OF PITTSBURGH, Pittsburgh,
Pennsylvania.

Bachelor of Science in Mechanical Engineering.

Alfred (Fred) Gaechter

EMPLOYMENT HISTORY

1984 to Present	Bell Communications Research, Livingston and Piscataway, New Jersey
1980 to 1984	AT&T General Departments, Basking Ridge, New Jersey
1967 to 1980	New Jersey Bell Telephone Co., various locations in Northern New Jersey
1963 to 1967	United States Air Force
1962 to 1963	New Jersey Bell Telephone Co., Totowa, New Jersey

PROFESSIONAL EXPERIENCE

1996 to Present

Belcore

Director - Numbering Strategies.

Supervises and leads a team of numbering and routing experts providing domestic and international consulting services to federal ministries, telecommunications network operators, service providers, associations, and consultants on numbering plan/network design, regulation, administration, and strategies.

Represents Belcore on domestic and international numbering for a.

Project Manager for the *Numbering Strategies* seminar series.

Lecturer at numerous domestic and international telecommunications seminars.

1987 to 1996

Belcore

DISTINGUISHED MEMBER OF TECHNICAL STAFF - North American Numbering Plan Administration (NANPA).

Administered specific numbering resources - *NANPA*: 456 NPA code, Vertical Service Codes, ANI II digits, 0XX/1XX codes; *Non-NANPA*: SS7 point codes, Multi-location Business Group Identifiers (MBGI), International Mobile Station Identifiers (IMSI). The administration of the non-NANPA resources is under contract to ATIS and CTIA.

Developed and presented NANPA positions on the appropriate use of NANP resources for new telecommunications services and technologies.

Represented the NANPA on domestic and international numbering for a.

Significant Accomplishments:

- Elected and served as Rapporteur of ITU-T Q1 by member nations for first 4-year term.
- Elected and served as Co-chairman of U.S. SGA Numbering Ad Hoc Committee
- Elected and served as IFAST Chairman
- Served as NANPA member of the Canadian Steering Committee on Numbering (CSCN)
- Co-chaired several INC workshops
- Formed and chaired the Future of Numbering Forum (FNF) - formed to resolve many of the numbering issues current studied by the INC and the NANC. The FNF was terminated when the FCC formed the NANC.
- Authored the NANPA's Long-Term Numbering Plan document. This document identified long-term numbering issues requiring industry resolution and proposed a solution to each. The first iteration was modified by industry comments. The second, and last, iteration became the basis of work for many of the INC's workshops and the FNF.
- Coordinated the allocation of the "500" NPA code for PCS and the "456" NPA code for International Inbound Identification and the development of the initial NXX assignment procedures prior to the INC's development of the consensus assignment guidelines.
- Served as an expert numbering resource to the domestic and international telecommunications sector including guest lecturer at many seminars and symposiums.
- Participated as NANPA member of local NPA code relief committees (1980s).

1984 to 1987**Bellcore**

Member of Technical Staff - National Security/Emergency Preparedness.

Coordinated the uniform and cooperative response of the RBOCs to disasters and emergencies.

Assisted the Defense Communications Agency in its design and implementation of the telecommunications NS/EP center in Arlington, Virginia.

Designed the Bellcore NS/EP response center in New Jersey.

Authored the NS/EP Response Manual (still in use today) by which Bellcore and the RBOCs respond to all local and national disasters and emergency, included disaster preparedness, resource sharing, and government agency interfacing.

Developed and performed annual emergency response exercises for all the RBOC networks and the Air Force's SAC bases.

1980 to 1984**AT&T**

Member of Technical Staff - Network Performance Analysis.

Analyzed all components, e.g., switching, facilities, signaling, network management, of the BOC and Long Lines network performance results, identified weak spots, and assisted the BOCs and Long Lines in the development of corrective action plans.

Managed AT&T's National Security/Emergency Preparedness center and response procedures. This center was activated and staffed by AT&T personnel to assist the BOCs during all emergencies and disasters.

1975 to 1980

Manager - Traffic Engineering.

Engineered and authored central office additions for electro-mechanical (X-Bar) and electronic switching systems (#1-4ESS). This function included technical switch design, addition costing, Western Electric purchasing, and addition on-sight coordination between Telco and WE installers.

1971 to 1975**New Jersey Bell***Manager - Network Management Center.*

Managed the network management center (NMC) for two 4A-ETS and seven X-Bar tandem switching centers. This function was responsible for the day-to-day traffic load control, rerouting of traffic during emergencies and peak load periods, designing and implementing unique management controls for peak traffic days, e.g., Christmas, Mother's Day, system design in support of the traffic management capabilities, coordination of remote telemetry capabilities for effecting controls remotely, and the staffing of the NMC.

1961-1971 *Various management positions.***New Jersey Bell**

Business Office Supervisor - supervised the operation of a residence business office responsible for customer service, including service writing and processing, billing and collections, annoyance call bureau, and all customer queries.

Assignment Bureau Supervisor - supervised the production of installation and repair service orders and the personnel on line with the installers and repairman when outside plant facilities needed to be rearranged to provide customer service. This function included portions of the CO code administration responsibilities currently being transferred to the new NANPA.

Outside Plant Engineering Supervisor - supervised the draftsmen responsible for writing and maintaining installation orders for and detailed records of all installed aerial, underground, and submarine cables in the Northern New Jersey area.

1962-1967 *Staff Sergeant - Air Force Intelligence***U.S. Air Force**

Russian linguist and intelligence analyst - responsible for the acquisition, analysis, and dissemination of electronic intelligence in Southeast Asia. Analysis provided as top priority to the National Security Agency. Based at Clark Air Force Base, Philippines.

EDUCATION

1961 to 1971

Fairleigh Dickinson University, New Jersey

Day and Evening

Economics

Syracuse University, New York

Languages

University of the Philippines, Manila

Economics

4. NANP Administration General Requirements

4.1 General Responsibilities

This section begins by defining the two primary responsibilities of the new NANPA:

- Assign and administer NANP resources in an efficient, effective, fair, unbiased, and non-discriminatory manner consistent with industry developed guidelines.
- Support the industry's efforts to accommodate current and future numbering needs, and advise the industry relative to numbering issues, e.g., potential resource exhaust.

Bellcore has performed these responsibilities since 1984, and will continue to do so if selected to be the new NANPA. We believe in and are committed to the principles incorporated into these responsibilities, and we believe that our record demonstrates that we put our beliefs into practice during our tenure as administrator.

- *Efficiency and effectiveness.* Bellcore does the NANPA function today with a very small but motivated staff, and have met our internally-monitored 10-day targets for completed assignment requests. It is a measure of our efficiency that the size of the current NANPA staff is the same as it was in 1984, despite significant increases in resource requests.

If selected as the new NANPA, NANPA, Inc. is committed to implement the performance monitoring program we have proposed in Section 1.6, which will make our conformance with performance targets available for review by the NANC and provide information to effect procedural enhancements, if needed.

- *Fair, unbiased, and non-discriminatory assignments.* Numbering administration is inherently contentious. In general, applicants who get assignments are satisfied and those who don't may disagree with the decisions. Nevertheless, there has never been a case where a court or a regulator has found that Bellcore, in its capacity as administrator, has been unfair, biased, or discriminatory. In terms of our commitment to the future, please recall that one of our goals in formulating this proposal is to establish a new NANPA whose internal workings are so open and public that bias either cannot occur or will be immediately visible.
- *Accommodating current and future numbering needs.* Complete and unambiguous assignment guidelines assist the administrator in meeting the industry's current and future numbering needs. Bellcore has worked actively with the INC and previously with the Industry Carriers Compatibility Forum (ICCF), to make numbering resources available for new services and to develop assignment guidelines for new and existing numbering resources. NANPA, Inc., if selected, will continue to do so.

- *Advising the industry on numbering issues.* Bellcore takes this responsibility very seriously and has often advised the industry of numbering issues requiring attention. Perhaps the most recent example is Bellcore's bringing certain area code requests to the INC and to the NANC when the relief plans to be used contradicted the conservation provisions of the assignment guidelines. Other examples of issues raised by Bellcore include a) the need for numbers for personal communications services and carrier selection on inbound international services, and b) the need for upgrades to the existing 900-NXX and CIC guidelines.

The numbered sub-paragraphs of Section 4.1 discuss specific NANPA functions. Our response to each of these paragraphs contains the commitment that NANPA, Inc. will operate with the same diligence and quality that Bellcore has exhibited in its performance of these functions for many years.

4.1.1 Relationships with Governmental and Regulatory Bodies

Bellcore, in its capacity as NANPA, has established productive and professional working relationships with regulators in the U.S. and Canada. Over the years Bellcore has worked closely with the FCC in numbering matters. We have provided information for their reports, and they have helped us in return. In fact a FCC staff member developed some of the software currently used for CIC reclamation. Similarly, Bellcore works cooperatively with the Canadian Numbering

Administrator, currently an employee of Industry Canada, to process assignment requests originating in Canada. In Bermuda and those Caribbean administrations formerly participating in the 809 NPA, regulators have typically delegated numbering responsibilities to the local service providers. We have established and maintained rapport with the designated contacts in conjunction with our role as central office code administrator for the 809 NPA.

The success of an integrated numbering plan serving multiple countries requires cooperation among those countries if the needs of all are to be served. Relationships established by the administrator can play a key role in resolving cross border numbering problems. The following examples indicate that Bellcore has established these relationships:

- Bellcore was able to negotiate an agreement between the U.S. and Canada in which Canada agreed to relinquish the 610 NPA code, the last remaining code in N0/1X format, for reassignment in Philadelphia where it was desperately needed to provide relief for the 215 NPA.
- Bellcore was able to negotiate an effective relief plan for the 809 NPA. For many years, the 809 NPA has been shared by 17 separate nations. As the 809 NPA neared exhaust, it was not clear how relief would be provided; and, most importantly, there was no agreement on which country would keep "809." This was of great concern because there was no easy way to find an solution acceptable to all of the involved countries. Here

again, Bellcore facilitated an agreement that resolved the problem without having to use diplomatic channels.

4.1.2 Participation in Standards and Industry Forums

For many years Bellcore has been an active participant and has held leadership roles in the standards bodies and industry forums that address numbering issues. Exact positions held are described in the personnel resumes contained in Section 3 of our response.

- Bellcore personnel have attended all INC meetings, participated in many workshops, and held leadership positions in the INC, including the co-chair position of the INC itself.
- Bellcore chaired the Future of Numbering Forum (FNF), an open forum convened to develop a long term numbering plan.
- A Bellcore NANPA representative has been, by invitation, an active participant in the Canadian Steering Committee on Numbering. He is, to our knowledge, the only U.S. representative to be asked to do so on a regular basis.

4.1.3 Representation on National and Global Numbering Bodies

Bellcore's involvement in these bodies has been consistently visible.

- For many years, Bellcore has held the position of rapporteur for the numbering question in Study Group 2 of the ITU. This is a very strategic position for the U.S. and all who share the NANP.
- Bellcore co-chairs, with the U.S. State Department, the Study Group A numbering ad hoc committee, which develops U.S. positions on numbering issues for discussion at ITU meetings.
- In its role as administrator, Bellcore has served as a special member of the NANC, and has reported to the NANC on numbering administration issues.

4.1.4 ITU Study Group 2 and U.S. Study Group A

The Requirements Document supports NANPA participation in the Study Group A *ad hoc* numbering group, but does not require participation in Study Group 2 because of the high costs associated with ITU membership and international travel. For that reason our proposal includes the costs of attending only Study Group A numbering *ad hoc* meetings in Washington, but does not include costs of attending Study Group 2 meetings. NANPA, Inc. will maintain knowledge of Study Group 2 activities through contact with Bellcore employees and others who attend the Study Group 2 meetings.

Belcore's current roles in Study Group 2 and Study Group A are described in Section 4.1.3 above. Belcore has no plans to relinquish its leadership roles in these two bodies, in particular its role as numbering rapporteur in Study Group 2. These roles have great strategic importance to the U.S.

4.1.5 Reviewing Resource Requests

Belcore reaffirms its commitment to process requests for numbering resources in a timely, fair, and effective manner under the terms of the assignment guidelines, and to refer to the industry any requests for which the assignment guidelines do not provide clear direction. NANPA, Inc. will participate in industry efforts to determine whether NANP numbers are appropriate and what level of resource is required to satisfy new numbering needs.

4.1.6 Administrative Staffing and Equipment

NANPA, Inc. will maintain the necessary administrative staff to handle the legal, financial, technical, staffing, industry, and regulatory issues relevant to the management of all numbering resources, and will maintain the necessary equipment, facilities, and proper billing arrangements (if any) associated with day-to-day management of all numbering resources which it administers.

4.1.7 Management of the NANP

Belcore agrees to manage the NANP in accordance with published guidelines adopted in conjunction with the industry and the appropriate NANP member countries' governing agencies.

When decisions and interpretations are required on issues that have not yet been addressed by the industry, Bellcore agrees to refer these instances to the appropriate industry body for resolution. In the past Bellcore has referred many such issues to the INC.

4.1.8 Requests from the Industry and Regulators

NANPA, Inc. will respond in a timely fashion to requests from the industry and from regulators about the NANP and its administration. Bellcore recognizes that NANPA is the primary repository for numbering information in the industry, and has taken steps over the years to make numbering information readily available. For example, three years ago we introduced the area code status report which provided a comprehensive picture of area code assignments, including a list of the NPAs projected to exhaust in the next ten years. In addition, Bellcore pioneered the idea of including numbering information on the world wide web, thus making the information both widely available and easily accessible. This information gets more than 11,000 visits each month.

4.1.9 Document Requests

Upon request, NANPA, Inc. will provide information on how to obtain current documents related to NANP administration, including those documents listed in Section 9.6. Requesters will be referred to the appropriate web sites, where they may view or download the documents. NANPA, Inc. will provide the capability to download from its web site those documents that it controls, and will provide pointers to documents on other web sites. As described in Section 7 of this response,

there may be a charge if NANPA, Inc. is requested to provide paper copies of documents. Copies of assignment guidelines for those resources administered by NANPA, Inc. will always be available free of charge.

4.1.10 Assistance to Resource Users

NANPA, Inc. will provide administrative and technical assistance to users of numbering resources and suggest alternatives, when possible, that will optimize number resource utilization.

4.1.11 Coordination with Administrators in Other NANP Countries

NANPA, Inc. will coordinate its numbering activities with that of the Canadian Number Administrator and other NANP member countries' administrators to ensure efficient, effective, and uniform management of NANP numbering resources. The required linkages and coordination are in place today.

4.1.12 Cost Allocation Methodology

During the question and answer dialogue after distribution of the Requirements Document, the industry decided that the final allocation methodology for sharing costs among NANP countries would be determined by the NANC with input from the new NANPA. NANPA, Inc. will assist the industry in any way that it can in making this decision.

4.2 NANP Number Resource Assignment and Administration

If selected, NANPA, Inc. will continue to assign and administer those numbering resources for which it currently has responsibility, which include:

- Numbering Plan Area (NPA) Codes
- Central Office Codes in the 809 NPA
- International Inbound NPA 456 NX(X) Codes
- PCS/N00 NXX codes (500)
- 900 NXX Codes
- N11 Service Codes for national use
- 800 855 line numbers
- 555 line numbers
- Carrier Identification Codes (CICs)
- Vertical Service Codes (VSCs)
- ANI II Digits (Automatic Number Identification Information Integers)

In addition, NANPA, Inc. will undertake certain responsibilities that are not performed today by NANPA. These responsibilities include administration of Non-Dialable Toll Points (NPAs 886 and 889). NANPA, Inc. will also participate in the development of assignment guidelines for and assume responsibility for the assignment and administration of new numbering resources that may be defined, with the understanding that additional staffing requirements may be negotiated, if needed, under the provisions of Section 1.5.2 of the Requirements Document.

Sections 4.2.1 through 4.2.11 of the requirements document provide detailed information about the administration of the resources listed above. Bellcore has performed the bulk of this work for fourteen years and has provided the input on which these sections of the Requirements Document were based.

4.2.1 Numbering Plan Area Codes

Bellcore administers these resources today and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. Use and ongoing enhancement the Bellcore-developed tools will continue. All specified documentation and reporting requirements will be met. NANPA, Inc. will administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

In addition, NANPA, Inc. will perform the annual Central Office Code Utilization Survey (COCUS) described in Section 5.2.2 of this proposal.

Bellcore has a particularly distinguished record as administrator of NPA codes. Through conservation Bellcore extended the life of the NPA code supply until 1995, when the industry was to be prepared for the introduction of interchangeable NPA codes. Bellcore served as overall coordinator for this massive change, the most significant change to the NANP since its introduction in 1947. Bellcore was also instrumental in the development and ongoing revision of assignment guidelines for NPA codes.

4.2.2 NPA 809 Central Office Codes

Bellcore administers these resources today and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. Use and ongoing enhancement of the Bellcore-developed tools will continue. All specified documentation and reporting requirements will be met. NANPA, Inc. will administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

As projected in the Requirements Document, this work continues to diminish as the remaining Caribbean islands in the 809 NPA continue to implement their own area codes.

During our fourteen years as NANPA, Bellcore has successfully represented the interests of the islands that share 809, and has established and maintained effective communication channels with these NANP participants.

4.2.3 International Inbound NPA 456 NXX Codes

Bellcore administers these resources today and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. Use and ongoing enhancement of the Bellcore-developed tools will continue. All specified documentation and reporting requirements will be met. NANPA, Inc. will administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

Further investigation will be needed to determine if assignment at the 456-NX level is still required, and NANPA, Inc. agrees to undertake that investigation if appropriate.

It should be noted that Bellcore responded to this numbering need and subsequently worked with the INC to develop assignment guidelines and with the FCC to determine the appropriate qualifications required to merit assignments of these codes.

4.2.4 PCS N00 (NPA500) NXX Codes

Belcore administers these resources today and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. Use and ongoing enhancement of the Bellcore-developed tools will continue. All specified documentation and reporting requirements will be met. NANPA, Inc. will administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

NANPA, Inc. will participate, as appropriate, in the industry's effort to study the feasibility of portable 500 numbers.

Here again, Bellcore took an active (and at times courageous) role in working with the industry and the FCC to make these numbers available, to develop assignment guidelines, and to meet the urgent needs of service providers.

4.2.5 900 NXX Codes

Belcore administers these resources today and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. Use and ongoing enhancement of the Bellcore-developed tools will continue. All specified documentation and reporting requirements will be met. NANPA, Inc. will

administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

NANPA, Inc. will participate, if appropriate, in the industry's investigation of the feasibility of U.S. local exchange carrier 900 number portability.

The stimulus to upgrade the 900-NXX assignment guidelines came from Bellcore, and NANPA, Inc. will support the changes that result from that effort.

4.2.6 N11 Service Codes

Bellcore administers these resources today (for national use) and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. All specified documentation and reporting requirements will be met.

NANPA, Inc. will administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

Bellcore was an active participant in the FCC N11 proceeding that has been concluded recently.

As a result of that proceeding, Bellcore has made two new service code assignments as ordered by the FCC.

4.2.7 800 855-XXXX Line Numbers

Belcore administers these resources today and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. Use and ongoing enhancement of the Bellcore-developed tools will continue. All specified documentation and reporting requirements will be met. NANPA, Inc. will administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

Belcore has worked with hearing-impaired groups in the U.S. and Canada in order to understand their needs and to find the numbering resources that best meet their needs.

4.2.8 555-XXXX Line Numbers

Belcore administers these resources today and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. Use and ongoing enhancement of the Bellcore-developed tools will continue. All specified documentation and reporting requirements will be met. NANPA, Inc. will administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

Belcore, recognizing that the supply of N11 codes would not be sufficient to meet the needs of the industry for "special numbers," proposed the use of 555 line numbers for that purpose. We were

instrumental in the development of assignment guidelines for 555 line numbers, and we developed software to track 555 line number assignments.

4.2.9 Carrier Identification Codes (CICs)

Bellcore administers these resources today and NANPA, Inc., if selected, will continue to administer them subject to the guidelines and controls documented in this section of the Requirements Document. Use and ongoing enhancement of the Bellcore-developed tools will continue. All specified documentation and reporting requirements will be met. NANPA, Inc. will administer these resources subject to the performance commitments described in Section 1.6 of this proposal.

As CIC administrator, Bellcore coordinated the split of CICs into separate Feature Group B and D pools, and the expansion of CICs from 3 to 4 digits. To satisfy the directive from the FCC that the supply of CICs should not exhaust, Bellcore implemented a reclamation program that has been very successful.

As indicated during the dialogue that led to the development of the material in the section of the Requirements Document, CICs remain the most troublesome numbering resource that Bellcore administers. NANPA, Inc. will continue to press, as Bellcore has, for modifications to the assignment guidelines that simplify CIC application, assignment, and reclamation procedures.